

What Is Claimed Is:

1. An etchant, comprising:

hydrogen peroxide (H_2O_2); and

a mixed solution including at least one of an organic acid, an inorganic acid, and a neutral salt.

2. The etchant according to claim 1, further comprising a hydrogen peroxide (H_2O_2) stabilizer.

3. The etchant according to claim 1, wherein the etchant etches a double-layered metal layer that includes a copper (Cu) layer, and a molybdenum (Mo) layer.

4. The etchant according to claim 1, wherein the etchant etches a double-layered metal layer that includes a copper (Cu) alloy layer, and a molybdenum (Mo) layer.

5. The etchant according to claim 1, wherein the organic acid includes an acetic acid (CH_3COOH).

6. The etchant according to claim 1, wherein the inorganic acid is selected from a group including sulfuric acid (H_2SO_4), nitric acid (HNO_3), hydrochloric acid (HCl), and phosphoric acid (H_3PO_4).

7. The etchant according to claim 1, wherein the neutral salt is selected from a group including potassium chloride (KCl), sodium chloride (NaCl), potassium hydrogen sulfate (KHSO_4), and potassium metaperiodate (KIO_4).

8. A method of forming an array substrate for use in a thin film transistor liquid crystal display (TFT-LCD) device, comprising:

forming a first metal layer on a substrate;

patterning the first metal layer to form a gate line and a gate electrode extended from the gate line;

forming a gate insulation layer on the substrate to cover the patterned first metal layer;

forming an active layer on the gate insulation layer and over the gate electrode;

forming an ohmic contact layer on the active layer;

forming a second metal layer on the gate insulation layer to cover the ohmic contact layer and the active layer;

forming a third metal layer on the second metal layer;

simultaneously patterning the second metal layer and the third metal layer to form a double-layered data line, a double-layered source electrode and a double-layered drain electrode using an etchant that includes hydrogen peroxide (H_2O_2), a H_2O_2 stabilizer, and at least one of an organic acid, an inorganic acid and a neutral salt; and

forming a pixel electrode contacting the double-layered drain electrode.

9. The method according to claim 8, wherein the first metal includes copper.
10. The method according to claim 8, wherein the second metal includes molybdenum.
11. The method according to claim 8, wherein the third metal includes copper.
12. The method according to claim 8, wherein the third metal includes copper alloy.
13. The method according to claim 8, wherein the double-layered data line, double-layered source electrode and double-layered drain electrode include a copper (Cu) layer and a molybdenum (Mo) layer.

14. The method according to claim 8, wherein the double-layered data line, double-layered source electrode and double-layered drain electrode include a copper (Cu) alloy layer and a molybdenum (Mo) layer.

15. The method according to claim 8, wherein the organic acid includes an acetic acid (CH_3COOH).

16. The method according to claim 8, wherein the inorganic acid is selected from a group including sulfuric acid (H_2SO_4), nitric acid (HNO_3), hydrochloric acid (HCl), and phosphoric acid (H_3PO_4).

17. The method according to claim 8, wherein the neutral salt is selected from a group including potassium chloride (KCl), sodium chloride (NaCl), potassium hydrogen sulfate (KHSO_4), and potassium metaperiodate (KIO_4).